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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,339	11/14/2001	Thomas M. Dunn	32409	4957

23589 7590 09/25/2003

HOVEY WILLIAMS LLP  
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EXAMINER

NGUYEN, THONG Q

ART UNIT

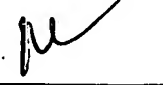
PAPER NUMBER

2872

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.	Applicant(s)	
10/004,339	DUNN, THOMAS M. 	
Examiner	Art Unit	
Thong Q. Nguyen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-24, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 26 is/are allowed.
- 6) ☒ Claim(s) 13-16, 18-24 and 27 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 June 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The present Office action is made in response to the amendment (Paper No. 6) of 6/13/2003. It is noted that in the mentioned amendment, applicant has canceled claims 12 and 25 and added two new claims, i.e., claims 26-27 into the application. As a result, the pending claims are now claims 1-11, 13-24 and 26-27.

### ***Drawings***

2. The drawings were received on 6/13/2003. These drawings are approved by the Examiner.

### ***Specification***

3. The lengthy specification which is amended by the amendment has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Suggestion***

4. The following correction is suggested to claim 13.

In claim 13: on line 6, "the light source is assembly is" should be changed to --the light source assembly is--.

### ***Claim Rejections - 35 USC § 102***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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6. Claims 13-14, 16, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson (Canada Patent No. 2,262,912, of record).

Richardson discloses a cordless microscope. The microscope with illuminating system as described in pages 4-6 (starting from line 116 in page 4) comprises a frame for supporting a base and an arm wherein the base is used to support a combination of LEDs and circuit board and the arm is used to support a microscope having an objective system and an eyepiece system. The connection among the battery (118), LEDs (101) and wires are made via the wiring as described in page 5, lines 145+. It is also noted that Richardson disclose the use of a switch (116) for turn ON/OFF the illumination and also the use of external source via the connection (117) as can be seen in page 5.

Regard to the removal of the illuminating system, in claim 8, Richardson discloses that his illuminating system is able to be quickly connected to the frame and to be interchanged with other stages containing other illumination means.

Regard to the use of an internally-reflective tube positioned within a lamp holder and a frost filter positioned at the end of the lamp holder, Richardson discloses the use of a holder (100) for supporting the LEDs and circuit board wherein the element (102) is an internally-reflecting tube covering the LEDs (see page 4, lines 123+) and the use of filter material at the end of the holder (100) for filtering light (see page 5, lines 142+).

7. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Ikado et al (U.S. Patent No. 6,313,943, of record).

Ikado et al disclose a microscope having an illuminating system. The microscope with the illuminating system as described in columns 3-5 and shown in figures 1 and 5, for example, comprises a stage chamber (16) supporting a sample to be observed and an illuminating system (18) disposed at a lower part of the chamber (16). The illuminating system comprises a plurality of LEDs (41) mounted on a circular-shaped circuit board for projecting light toward the stage chamber. It is noted that the illuminating system is able to be removable and replaceable as can be seen in column 5 and figures 4(a-b) in which the illuminating system with linear-like light sources (figure 4a) is replaced by the illumination system with arc-like light sources (figure 4b) light source.

***Claim Rejections - 35 USC § 103***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson in view of Vannard.

The microscope provided by Richardson as described in paragraph 6) above does not disclose that the number of LEDs is four. However, the use of an illuminating system having four LEDs is known to one skilled in the art as can be seen in the system provided by Vannard. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Richardson by using four LEDs as suggested by Vannard for the purpose of reducing the power consumption.

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10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson in view of Waitl (WO 00/70687).

The microscope provided by Richardson as described in the paragraph 6) above does not disclose that the LEDs having structure for producing a highly-focused angle of illumination so that most of the light from the LEDs is projected upwardly. However, the use of a circuit board supporting a plurality of LEDs wherein the LEDs produces light with small radiation angle and projected upwardly from the circuit board is suggested to one skilled in the art as can be seen in the illuminating system provided by Waitl. See pages 5-9 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Richardson by using the LEDs having small radiation angle as suggested by Waitl for the purpose of reducing the power consumption.

11. Claims 19-20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gurz (U.S. Patent No. 5,539,623, of record) in view of Waitl (WO 00/70687).

Gurz et al disclose an illuminating system for an exit sign. The illuminating system as described in columns 4-7, claims 13-14 and shown in figures 2 and 7-8, for example, comprises a circuit board (70) wherein a reflective coating is coated for the purpose of increasing the reflection (column 5, lines 34+); a plurality of LEDs (65) mounted on the circuit board for projecting light upwardly from the circuit board. The use of a battery and a rechargeable battery in

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connection to the LEDs is disclosed as can be seen in columns 4-7. With regard to the formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery and/or the rechargeable battery to the LEDs are inherently disclosed when Gruz et al refer to the conventional circuit board with circuitry disclosed in column 7.

With regard to the use of the light assembly in a microscope as recited in the preamble of the claim, see line 1 of claim 19, such a recitation in the preamble part of a claim is not given a patentable weight because all features appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble. Applicant should note that it was decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, supra at 480, 88 USPQ 478 (CCPA 1951) ; Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

As such, the illuminating system provided by Gurz meets all of the limitations recited in the claims except the feature that the LEDs having structure for producing a highly-focused angle of illumination so that most of the light from the LEDs is projected upwardly. However, the use of a circuit board supporting a plurality of LEDs wherein the LEDs produces light with small radiation angle and

projected upwardly from the circuit board is suggested to one skilled in the art as can be seen in the illuminating system provided by Waitl. See pages 5-9 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Gurz by using the LEDs having small radiation angle as suggested by Waitl for the purpose of reducing the power consumption.

12. Claims 19-20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandorff et al (U.S. Patent No. 5,408,084, of record) in view of Waitl (WO 00/70687) and Gurz (U.S. Patent No. 5,539,623, of record).

Brandorff et al disclose an imaging apparatus having a camera and an illuminating system wherein the light provided by the illuminating system is guided to illuminate an element (14) disposed in a stage (12). The illuminating system as described in columns 2-7 and shown in figures 1-4 comprises a circuit board (110); a plurality of LEDs (120) mounted on the circuit board for projecting light toward the element disposed on the stage. The use of a battery and a rechargeable battery in connection to the LEDs is disclosed as can be seen in columns 3-4. With regard to the formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery and/or the rechargeable battery to the LEDs are inherently disclosed when Brandorff et al refer to the structure of the circuitry disclosed in columns 6-7 and fig. 4.



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With regard to the recitation relating to the use of the light assembly in a microscope as recited in the preamble of claim 19, line 1, such a recitation in the preamble part of a claim is not given a patentable weight because all features appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble. Applicant should note that it was decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, supra at 480, 88 USPQ 478 (CCPA 1951) ; Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

As such, the illuminating system provided by Brandorff et al meets all of the limitations recited in the claims except the feature that the LEDs having structure for producing a highly-focused angle of illumination so that most of the light from the LEDs is projected upwardly. It is also noted that Brandorff et al do not explicitly disclose that their circuit board has a reflective coating formed on the circuit board.

The use of a reflective coating on a circuit board supporting a plurality of LEDs is known to one skilled in the art as can be seen in the illuminating system provided by Gurz et al. In particular, Gurz et al disclose an illuminating system for an exit sign. The illuminating system as described in columns 4-7, claims 13-14 and shown in figures 2 and 7-8, for example, comprises a circuit board (70) for

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supporting a plurality of LEDs (65) wherein a reflective coating is coated for the purpose of increasing the reflection (column 5, lines 34+). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Brandorff et al by utilizing a reflective coating on the circuit board as suggested by Gurz et al for the purpose of increasing the reflectant process.

Regarding to the use of a circuit board supporting a plurality of LEDs wherein the LEDs produces light with small radiation angle and projected upwardly from the circuit board, such use is suggested to one skilled in the art as can be seen in the illuminating system provided by Waitl. See pages 5-9 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Brandorff et al by using the LEDs having small radiation angle as suggested by Waitl for the purpose of reducing the power consumption.

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandorff et al in view of Gurz and Waitl as applied to claim 19 above, and further in view of Ikado et al (of record).

The illuminating system having a circuit board supporting a plurality of LEDs as provided by Brandorff et al, Gurz and Waitl does not have a circular shape/configuration as that claimed in the present claim 21. However, it was decided in the Courts that a change in shape is an obvious matter to one skilled in the art. In re Dailey, 149 USPQ 47 (CCPA 1976). Further, the use of a circuit

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board having a rectangular shape or a circular shape is known to one skilled in the art as can be seen in the illuminating system provided by Ikado et al. See column 5 and figs. 4. Thus, absent of any criticality with unexpected result then it would have been obvious to one skilled in the art to modify the system provided by Brandorff et al by using any kind of shape including a circular shape for the circuit board as suggested by Ikado et al for the purpose of providing a desired illumination pattern to a particular object to be illuminated.

14. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vennard (U.S. Patent No. 4,157,007) in view of Waitl (WO 00/70687) and Gurz (U.S. Patent No. 5,539,623, of record).

Vennard discloses an illuminating system for a watch module. The illuminating system as described in columns 2-4 and shown in figures 1-2, for example, comprises a circular-shaped circuit board (10) having a plurality of electrical wires embedded therein for the purpose of transmitting current flow from a battery/power source, a set of four LEDs (28, 30, 34 and 36) mounted on the circuit board for projecting light upwardly from the circuit board. The formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery to the LEDs are also disclosed by Vennard as can be seen in columns 3-4.

With regard to the recitation relating to the use of the light assembly in a microscope as recited in the preamble of claim 19, line 1, such a recitation in the preamble part of a claim is not given a patentable weight because all features

appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble. Applicant should note that it was decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, supra at 480, 88 USPQ 478 (CCPA 1951) ; Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

As such, the illuminating system provided by Vennard meets all of the limitations recited in the claims except the feature that the LEDs having structure for producing a highly-focused angle of illumination so that most of the light from the LEDs is projected upwardly. It is also noted that Vennard does not explicitly disclose that their circuit board has a reflective coating formed on the circuit board.

The use of a reflective coating on a circuit board supporting a plurality of LEDs is known to one skilled in the art as can be seen in the illuminating system provided by Gurz et al. In particular, Gurz et al disclose an illuminating system for an exit sign. The illuminating system as described in columns 4-7, claims 13-14 and shown in figures 2 and 7-8, for example, comprises a circuit board (70) for supporting a plurality of LEDs (65) wherein a reflective coating is coated for the purpose of increasing the reflection (column 5, lines 34+). Thus, it would have been obvious to one skilled in the art at the time the invention was made to

modify the illuminating system provided by Vennard by utilizing a reflective coating on the circuit board as suggested by Gurz for the purpose of increasing the reflectant process.

Regarding to the use of a circuit board supporting a plurality of LEDs wherein the LEDs produces light with small radiation angle and projected upwardly from the circuit board, such use is suggested to one skilled in the art as can be seen in the illuminating system provided by Waitl. See pages 5-9 and figs. 1-3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Vennard by using the LEDs having small radiation angle as suggested by Waitl for the purpose of reducing the power consumption.

#### ***Allowable Subject Matter***

15. Claims 1-11 and 26 are allowed over the cited art.
16. Claim 17/16/14/13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

17. The additional reference is cited as of interest in that 1) The Japanese reference No. 2003-58084 discloses an arrangement of LEDs in a Y-shaped configuration; and 2) each of the Patent Nos. 6,152,590; 6,502,956 and 5,642,933 discloses a circuit board supporting a plurality of LEDs wherein the Led has a small emission angle.

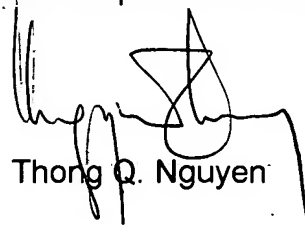
18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen

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Primary Examiner  
Art Unit 2872

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